TEACHING FOR ACADEMICLEARNING: OBJECTIVES, FLEXIBLE AND CREATIVE PLANNING USING TAXONOMIES, PLANNING FROM A CONSTRUCTIVIST PERSPECTIVE, INTEGRATED AND THEMATIC PLANNING

INTRODUCTION

In every society, children will inherit social roles occupied by adults. Our education systems have the job of preparing children for this eventual responsibility. Therefore, around the world, people want to improve education. Some want to strengthen basic academic skills; others want to focus on critical thinking. Some want to promote citizenship or character; others want to protect children against the dangers of drugs, violence and alcohol. Some educational institutions want parents to play a larger role; others feel the entire community should beinvolved.

ACADEMIC LEARNING

The kind of learning that improves academic achievement paves the way for successful school completion and sets the stage for a successful transition into productive adulthood. Academic learning comprises of inseparable components of powerful learning and development. These components include:

- Content mastery, especially in core subject areas;

- Learning process skills and abilities, especially learning how to learn;
- Learning enrichment skills and abilities, especially knowing where and how to get new knowledge and skills;
- Learning enhancement skills and abilities, especially the capacity to reflect on personal learning experiences and, on the basis of this reflection, to correct weaknesses and build on strengths;
- The ability to engage in self-directed learning, including the ability to persist when challenges are present; and
- The ability to teach others and, all in all, help them learn.

So, the term teaching for academic learning may refer to a wide variety of instructional methods, educational services, or school resources provided to students in the effort to help them accelerate their learning progress, catch up with their peers, meet learning standards, or generally succeed in school.

It does emphasize the need for qualified teachers and related services providers/student support services staff, especially persons who know the content, know how to teachit, understand students and know how to operate in schools, homes and community agencies. It also emphasizes the need for safe, secure, health-enhancing learning environments, starting with the school's climate.

Outcomes Associated with Academic Learning

Strategic academic practices and programming are vital in schools, community organizations and homes. The main idea is to harmonize and coordinate academic learning and the conditions needed to support and reward it – in all of the places where youth learn and develop. This means that everyone committed to, and a partner in school improvement. It means that everyone is responsible and accountable for academic learning and achievement. A great deal of research has pointed to the importance of academic learning time and opportunities.

Research has documented significant improvements in important outcomes as well as reductions in problem behaviours. The table that follows provides the most important examples of both.

Outcomes Associated with Academic Learning

Improvements in:	**Reductions in:**
Grades	Special education referrals
Scores on proficiency tests	Disruptive and aggres behaviours
Increased attendance	Drop out
Positive school climate	Truancy
Behavioural and emotic functioning	Absenteeism
Student interest and value subjects	Teacher turnover
Self concept and esteem	
Social skills	
Positive attitudes towardschoo	
Quality of relationships betw students and educators	
Teacher morale and support	

Strategies to Promote Academic Learning

Research indicates that some strategies can be very useful in helping students to successfully acquire academic learning which are as under:

- Create an engaging, motivating, and intellectuallystimulating learning experience
- Using information on students levels of understanding to increase the pace of instruction whenever appropriate
- Enhance student engagement and learning through

effective curriculum design, pedagogy and assessment strategies

- Ensuring that students are being taught at the optimal instructional level, one that challenges them but provides enough success to keep them confident and interested in learning
- Having systematic procedures for supervising and encouraging students while they work
- Initiating more interactions with students during seatwork periods, rather than waiting for students to ask for help.
- Model and demonstrate explicit strategies to students for learning academic material or completing assignments. Have them use these strategies under supervision until you are sure that students understand and can correctly use them.
- Having more substantive interactions with students during seatwork monitoring, stay task oriented, andwork through problems with students
- Giving extra time and attention to students they believe need extra help
- Providing 'scaffolding' support (individual instructional modifications) to students as necessary to help them to master a new task or keep up with more advanced learners
- Giving the students lots of opportunities to drill and practice to strengthen the skills as they become more proficient in their skills and can work independently
- Make sure that students who are mastering new academic learning skills have frequent opportunities to try these skills out with immediate corrective feedback and encouragement
- Teachers can verify that students are making appropriate learning progress only when they are ableto measure that progress on a regular basis.
- Continuously improve teaching practice through academic staff professional development, and critical

reflection informed by a range of evaluationapproaches.

Barriers in Academic Learning

Several barriers emerge as schools and communities wrap their arms around academic learning. Some key challenges and strategies to minimize them are given as under:

Barrier	**Strategies to Minimizethe Barrier**
Teaching and Instruction and the Diversity of Student Needs	
Students have diffe background, knowledge and experiences	Utilize a variety of teaching meth (lecturing, visual aids, classro discussions, activities, small grou movies, hands on activities, use multiple senses
Students have language barr and have different learn styles	Anticipate the diversity by being prepared with various levels homework or assignment sheets wh cover same material/content
Students have physical mentaldisabilities that preven deter learning	Provide targeted interventions to cert students in the after-school hours
Classrooms are overcrowded a majority of students are in n of teacher's attention	Provide small group work w educators can monitor groups in la classroom
Educators are ill-equipped deal with non-academic barrier	Educators receive training, professi development, and on-going support effective teaching and instruction
	Provide classroom volunteers (parents, community members, key st holders)

learning Educators are challenged to individualize instruction to m all students' needs/levels	

Barrier	Strategies to Minimizethe Barrier
Classroom Management	
Rules and policies are not well known consistently enforced	Ensure that rules in classroom coincide and enforce school wide policies. Rules sho also be posted, well known and consiste enforced
Students do not have clear expectati guiding their behaviours	Provide a demonstration of the m behaviour and have peers also reinforce des behaviour and also reinforce appropr behaviours
Time on task not maximized due to stu problem behaviours	Put strategies in place to maximize acade learning time Educators should use proactive techniques strategies that deter the onset of probl behaviours
Students display distracting prob behaviours which take away fr instructional time	
Resources and Time	
There is a lack of space, desks, rooms, e	There should be well equipped infrastruct facilities
There are limited quality materials, bo and resources for learning	Utilize community stakeholders who can do resources
Educators struggle with maximizing t on task due to other challenges in classroom (behavioural managem diversityin student needs, etc.)	Actively engage students in exciting activit educators should teach with a passion enthusiasm for teaching

Barrier	Strategies to Minimizethe Barrier
Multitude of non-academic barriers	
Student outcomes are influenced by varia other than academiclearning	Educate teachers and school staff on how to iden and assess early signs and symptoms of risk problem behaviours
There are community conditions that influe student outcomes	Utilize and brainstorm with school sc worker/counsellor for strategies to address n academic barriers
There are family conditions that influe student outcomes	Educate teachers and school staff on how to effecti and efficiently link students and families to suppor service staff and other health and social ser providers
Educators, principals, and social ser providers are not knowledgeable about strategies for addres conditions to learning	There should be provision for pre-service and service training of educators and others involved in learning process

LEARNING OBJECTIVES-MEANING AND CONCEPT

The objective is a statement which suggests a certain kind of change in the children which we try to bring about it in thechild. As *Carter. V. Good* rightly said, "objective is desired change in the behaviour of the pupil as a result of experience directed by school.

Learning objectives are the specific statements of what students should know, be able to do and understand at the end of a lesson. A learning objective is an outcome statement

that captures specifically what knowledge, skills, attitudes learners should be able to exhibit following instruction.

Norman Gronlund (2000) defines instructional objectives as "intended learning outcomes..... the types of performance students are expected to demonstrate at the end of instructions to show that they have learned what was expected of them".

The key components of any learning objectives are:

- Specific
- Measurable/Observable
- Attainable for target audience within scheduled time and specified conditions
- Relevant and results-oriented
- Targeted to the learner and to the desired level of learning

Creating learning objectives is an essential step in designing instruction of any kind. Clearly defined objectives form the foundation for selecting appropriate content, learning activities, and assessment measures. If objectives of the course are not clearly understood by both instructor and students, if the learning activities do not relate to the objectives and the content, then the methods of assessment, which are supposed to indicate to both learner and instructor, how effective the learning and teaching process has been, will be at best misleading, and, at worst, irrelevant or unfair.

Advantages of using Learning Objectives

The use of Learning Objectives are helpful in:

- It allows both teaching staff and learners to have a clear picture of the behaviour that is expected of the latter at the end of a course.
- Once the learning objectives are developed, one can more rationally sequence instruction, allot time to topics, assemble materials, prepare outlines and booklists, etc.
- It also provides a great help in adjusting teaching methods to facilitate the achievement of the stated objectives.
- Learning objectives can also be used as a guide to

teaching, as when different instructional methods for presenting various types of content based on the desired learning outcomes are planned(e.g., small- group editing of reports to give students experiencein evaluating content logic and correct usage).

- Learning objectives can facilitate various evaluation activities, evaluating students, evaluating instruction, evaluating the curriculum. They can form the basisfor grading for determining levels of competence in mastery a learning system.
- They can also be used to demonstrate effective teaching by matching student learning, as measured by exams, etc., to the desired outcomes.

Limitations of using Learning Objectives

Despite of the above mentioned advantages, learning outcomes do have some limitations as stated below:

- One limitation of adopting an objective-based approach is that the objectives may be given greater status than they deserve.
- Learning objectives can be difficult to construct and time consuming.
- Expertise is required to formulate learning objectives.

Writing Instructional Objectives

Instructional objectives are written for the student and they state what the student is expected to do following instruction. There are benefits to incorporating objectiveswithin the coursework which can be summarized as follows:

- Objectives emphasize major points and reduce non- essential material.
- Objectives simplify note taking and cue the students to emphasize major points.
- Objectives assist students in organizing and studying content material. They guide the students to what is expected from them and help them to study importantinformation.

- Objectives assist the student in studying more efficiently.
- Finally, when examination items mirror objectives, students can use the objectives to anticipate testitems.

Three prevalent methods of structuring objectives are as under:

Robert Mager Approach: One well developed and influential method of writing objectives is Robert Mager Approach. Mager pioneered a new approach to instructional design which involved establishing objectives for instruction in 1962. According to *Mager* and his followers, a behavioural objective (learning outcome) should be written in clear, unambiguous terms that any teacher or student can understand without the need for explanation and should include the following three basic elements:

(a) It should state what the student should be able to doat the end of the learning

(b) It should state the conditions or constraints underwhich this behaviour is to be exhibited.

(c) It should give a clear indication of the minimum standard of performance that is considered acceptable.

Mager's objectives are generally regarded as behavioural.

Norman Gronlund Approach: *Norman Gronlund* (2000) offers a different approach, which is often used for writing cognitive objectives. The basic principle of his approach is firstly, stating the objectives in general terms and identify specify learning outcomes to define the objectives in terms of the behaviour that students are expected to demonstrate at the conclusion of the instruction. According to *Norman*, 'the focus should be on the learning outcomes attained by the students. The objectives should direct attention to the student and to the types of behaviour he/she is expected to exhibit as a result of the learning experience. Our focus shifts from the teacher to the student and from the learning process to the

learning outcomes'.

Gronlund believes that when writing an objective, the teacher should keep in mind the following:

- The objective provides direction for the instructor.
- The objective serves as a guide for the student's learning activities and may be conveyed to them.
- The objective must be stated in terms of studentbehaviours, not teacher behaviours
- The objective should state only one type of learning outcome rather than compound outcomes.

Knirk and Gustafson's ABCD Method: The ABCD method is not too different from *Mager's* three-part system. An ABCD objective contains all three components of a three-part objective (the condition, behaviour, and criteria (referred to as "degree of measurement" in the ABCD method)). The ABCD method adds "audience" to the objective.

The ABCD method is very similar to the three-part system, and shares the same pros and cons:

- Both methods are best suited for criterion-referencedand certification training.
- Both methods work hand in hand with test itemdevelopment.
- Both methods are time consuming and may actually be limiting the designer and/or instructor.

By adding the audience component, this method to writing objectives becomes most helpful when the training is designed to have different outcomes for multiple audiences.

FLEXIBLE AND CREATIVE PLANING- USINGTAXONOMIES

In 1956, *Benjamin Bloom* along with a group of like-minded educators developed a framework for classifying educational goals and objectives into a hierarchical structure representing different forms and levels of learning. Bloom and his colleagues developed a taxonomy or classification system of educational

objectives. The taxonomy consisted of the following three domains:

The Cognitive Domain: Bloom's original 1956 Taxonomy of Educational Objectives identified the following levels of cognitive learning (arranged from lower-order to higher-order levels of learning):

- **Knowledge**: The remembering of previously learned material; this involves the recall of a wide range of material, from specific facts to complete theories.
- **Comprehension:** The ability to grasp the meaning of previously-learned material; this may be demonstrated by translating material from one formto another, interpreting material (explaining or summarizing), or by predicting consequences or effects.
- **Application**: The ability to use learned material in new and concrete situations; this may include the application of rules, methods, concepts, principles, laws, and theories.
- **Analysis**: The ability to break down material into its component parts so that its organizational structure may be understood; this may include the identification of the parts, analysis of the relationships between parts, and recognition of the organizational principles involved.
- **Synthesis**: The ability to put parts together to forma new whole; this may involve the production of a unique communication (thesis or speech), a plan of operations (research proposal), or a set of abstractrelations (scheme for classifying information).
- **Evaluation**: The ability to judge the value of material for a given purpose; the judgments are to be based on definite internal and/or external criteria

Revised *Bloom's* Taxonomy

In 2001, a former student of *Bloom's*, Lorin Anderson, and

a group of cognitive psychologists, curriculum theorists and instructional researchers, and testing and assessment specialists published a revision of *Bloom's* Taxonomy entitled *'A Taxonomy for Teaching, Learning, and Assessment'.* The revision updates the taxonomy for the 21st century, and includes significant changes in terminology and structure. In the revised framework, "action words" or verbs, instead of nouns, are used to label the six cognitive levels, three of the cognitive levels are renamed, and the top two higher-order cognitive levels are interchanged. The result is a more dynamic model for classifying the intellectual processes used by learners in acquiring and using knowledge. The revised taxonomy identifies the following new levels of cognitive learning (arranged from lower-order to higher-order levels of learning):

- **Remembering**: Retrieving, recognizing, and recalling relevant knowledge from long-term memory
- **Understanding**: Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining
- **Applying**: Using information in new ways; carrying out or using a procedure or process through executingor implementing
- **Analyzing**: Breaking material into constituent parts; determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing
- **Evaluating**: Making judgments based on criteria and standards through checking and critiquing; defending concepts and ideas
- **Creating**: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

The Affective Domain*: Krathwohl, Bloom* & *Masia* (1964) identified the following levels for affective domain:

- **Receiving**: Being aware of something in the environment. Beginning to have favourable feelings towards it.
- **Responding**: Showing belief in the values and becomes committed or involved in it.
- **Valuing**: Showing definite commitment or involvement.
- **Organizing**: Integrating a new value into one's general values.
- **Internalizing of Values**: Acting consistently with the new value. Becomes a way of life.

The Psychomotor Domain: Harrow (1977) identified the following levels for psychomotor domain:

- **Reflex Movement**: Involuntary response to stimulus (blinking)
- **Basic Movements**: Combination of reflex movements (walking)
- **Perceptual Abilities**: Translation of stimuli received through the senses into appropriate movements (jumping rope)
- **Physical Abilities**: Basic movements prerequisite to higher skills (weight lifting)
- **Skilled Movements**: Complex movements embodying efficiency (dance)
- **Non-discursive Communication**: Ability to communicate through body movement (facial expressions, gestures)

Each of these three domains consists of a multi-tiered, hierarchical structure for classifying learning according to increasing levels of complexity. In this hierarchical framework, each level of learning is a prerequisite for the next level, i.e., mastery of a given level of learning requires mastery of the previous levels. Consequently, the taxonomy naturally leads to classifications of lower- and higher-order learning. In higher education, the cognitive domain has been the principal focus for developing educational goals and objectives while the

affective and psychomotor domains have received less attention. Bloom's taxonomy has stood the test of time, has been used by generations of curriculum planners and college and university professors, and has become the standard for developing frameworks for learning, teaching, and assessment.

PLANNING TEACHING FROM CONSTRUCTIVISTPERSPECTIVE

Planning is the process of thinking about and organizing the activities required to achieve a desired goal in classroom. In education planning is preparing a sequence of action steps to achieve learning objectives. It is a challenge for every teacher to plan effectively. There are many approaches in psychology (Behaviourism, Cognitivism, Constructivism) which helps teachers to plan effectively. Selection of good approach reduces much the necessary time and effects of achieving goal. A plan is like a map.

Constructivism is relatively a new approach in the field of psychology and education stressing more upon the cognitive abilities of perception, learning attention, thinking and reflection of the child, his post experiences and his cognitive state of coordinating and integrating his own thoughts and conditions in learning and acquiring knowledge. Features of constructivism are more effective over behaviourism and cognitivism that's why constructivism is more useful and creative perspective in classroom teaching and learning.

Constructivism emphasize the active role of the learner in the process of constructing knowledge by him for that he shouldunderstand and interact with existing environment. During classroom planning in constructivist, approach, teacher believe that all knowledge is constructed from learners previous knowledge. Teacher focus to transform students, from a passive receipt of information to an active participation in learning process.

In constructivist classroom planning teacher setup steps for interactive and dynamic learning and facilitates inductive

thinking and discovery method.

The constructivism learning theory argues that people produce knowledge and farm meaning based upon their experiences. Two of the key concepts within the constructivism learning theory which creates the construction of an individual's new knowledge are accommodation and assimilation. Assimilation causes an individual to incorporate new experiences. This causes the individual to develop new outlooks, rethink what we once misunderstandings, and evaluate what is important, ultimately altering their perceptions. Accommodation, on the other hand, is reframing the world and new experiences into the mental capacity already present. Individuals conceive a particular fashion in which the world operates. When things do not operate within that context, they must accommodate and reframing the expectations with the outcomes.

Constructivist Teaching Strategies

The role of teachers is very important within the constructivism learning theory. Instead of giving a lecture the teachers in this theory function as facilitators whose role is to aid the student when it comes to their own understanding. This takes away focus from the teacher and lecture and puts it upon the student and their learning. The resources and lesson plans that must be initiated for this learning theory take a very different approach toward traditional learning as well. Instead of telling, the teacher must begin asking. Instead of answering questions that only align with their curriculum, the facilitatorin this case must make it so that the student comes to the conclusions on their own instead of being told. Also, teachers are continually in conversation with the students, creating the learning experience that is open to new directions depending upon the needs of the student as the learning progresses. Teachers following Piaget's theory of constructivism must challenge the student by making them effective critical thinkers and not being merely a "teacher" but also a mentor, a consultant, and a coach.

Characteristics of Constructivist Teaching

One of the primary goals of using constructivist teaching is that students learn how to learn by giving them the trainingto take initiative for their own learning experiences.

The characteristics of a constructivist classroom are as follows:

- the learners are actively involved
- the environment is democratic
- the activities are interactive and student-centered
- the teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous

Key Principles

There can be five key principles of constructivist learning theory. These can be used for curriculum structure and lesson planning.

Five Guiding Principles of Constructivism:

1. Pose problems of emerging relevance to students.
2. Structure learning around primary concepts.
3. Seek and value students' points of view.
4. Adapt instruction to address student suppositions.
5. Assess student learning in the context of teaching. These are applicable at all levels and stages of learning.

Traditional Classroom Versus ConstructivistClassroom

A contrast between the traditional classroom and the constructivist classroom is illustrated below:

Aspects	he Traditio Classroom	The Constructi Classroom
1. Focus	Begins with parts the whole–Emphas basic skills	Begin with the whol expanding to parts
2. Curriculum	Strict adherence fixed curriculum	Pursuit of stuc questions/interests
3. Study Mate	Textbooks workbooks	Primary Sources/manipulative materials
4. Teac Learner Relationship	Instructor gives/students receive	Learning is interactio building on what students alre know
5. Role Teacher	Instructor assu directive, authorita role	Instructor interacts/negotiates v students
6. Evaluation	Assessment testing/correct answ	Assessment via stuc works, observati points of view, tests. Process is as importan product
7. Knowledge	Knowledge is inert	Knowledge dynamic/change experiences
8. Students' Interaction	Students w individually	Students work in group

Role of Teachers

In the constructivist classroom, the teacher's role is to prompt and facilitate discussion. Thus, the teacher's main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the subject. Parker J. Palmer (1997) suggests that good teachers join self, subject, and students in the fabric of life because they teach from an integral and undivided self, they manifest in their own lives, and evoke in their students, a capacity for connectedness.

Models of Teaching from Constructivist Perspective

David Jonassen identified three major roles for facilitators to support students in constructivist learning environments:

- Modeling
- Coaching
- Scaffolding

A brief description of the Jonassen major roles are:

Modeling: Jonassen describes Modeling as the most commonly used instructional strategy in Constructivist Learning Environments. Two types of modeling exist:behavioural modeling of the overt performance and cognitive modeling of the covert cognitive processes. Behavioural modeling in Constructivist Learning Environments demonstrates how to perform the activities identified in the activity structure. Cognitive modeling articulates the reasoning (reflection-in-action) that learners should use while engaged in the activities.

Coaching: For Jonassen the role of coach is complex and inexact. She acknowledges that a good coach motivates learners, analyzes their performance, provides feedback and advice on the performance and how to learn about how to perform, and provokes reflection and articulation of what was learned. Moreover, she posits that coaching may be solicited by the learner. Students seeking help might press a "How am I Doing?" button. Or coaching may be unsolicited, when the coach observes the performance and provides encouragement, diagnosis, directions,and feedback. Coaching naturally and necessarily involves responses that are situated inthe learner's task performance.

Scaffolding: Scaffolding is a more systemic approach to supporting the learner, focusing on the task, the environment, the teacher, and the learner. Scaffolding provides temporary frameworks to support learning and student performance

beyond their capacities. The concept of scaffolding represents any kind ofsupport for cognitive activity that is provided by an adult when the child and adult are performingthe task together.

II. Another constructivist learning design was developed by George W. Gagnon. Jr., and Michelle Collay.

In this model, teachers implement a number of steps in their teaching structure. The steps to be followed are as follows:

1. **Development** of a situation: the teacher develops a situation for students to explain. In constructivist approach there is one basic assumption that "There is no one set of generalized learning laws with each law applying to all domains" of learning. Therefore, here the teacher takes care that the learning process in which learners carry out activities should have direct relationship with the learning and theculture in which the process is to be carried out.

2. **Grouping:** the teacher selects a process for grouping of materials and students. On many occasions individualistic learning takes place in learners. But under the purview of thisapproach learners for achieving some difficult and (may be) higher objectives may undertake collaborate efforts, share experiences, discuss the diverse phenomena, and have productive dialogue with peers on different concepts or differentaspects of events or situations present in the environment.

3. **Bridging**: Build a bridge between what students already know and what the teachers want them to learn Constructivism upholds the conviction that learner creates his 'reality' through his own efforts by exploring and discovering the contents of his present environment. The "real world" is not as it seems to him, but rather it is what he as a learner perceives and discovers it. It is his psychological world which determines the meaning and context of the things, events and situations for the learner. Learner's "real world" from where he derives meaning and construct knowledge is created by him not by some other individuals.

4. **Anticipate questions** to ask and answer without giving away an explanation Constructivist theory is based on the belief that real learning occurs when the learner constructs his personal knowledge and understanding being an active participant of the learning process. Good learning can take place when learners engage in dialogue and discuss about different concepts, things and events with others-may be the students or the teachers.

5. **Freedom of expression**: Encourage students to exhibit a record of their

thinking by sharing it with others.

6. **Assessment:** Solicit students' reflections about their learning. Inconstructivist approach it is not the output (like the traditional pattern of assessment) which is stressed upon but rather it is essentially the true potential of the learners which is given importance. In constructivism, the assessmentis a two-way process involving interaction between the learner and the teacher. The evaluator sets a stage of dialogue with the learner (whose performance is being assessed) to find out his current status of performance on some specific task or activity. Feedback from the concerned learner is also considered quite worthwhile. Learner and the teacher also find out the ways and means to improve upon the performance on subsequent occasions. Thus, learning and evaluation are highly mutually interlinked concepts and are not the two separate processes. In this approach the instructor (teacher) accepts the assessment as a continuous and interactive process that measures achievement of the learner, the quality of teaching experiences and the contents of the course work.

III. **The Information Construction (ICON) model**. Robert O. Mc Clintock and John B. Blackof Columbia University Teachers College derived yet another design model from several computer technology-supported learning environments at the Dalton School in New York.

The Information Construction (ICON) model contains seven stages:

1. **Observation**: Students make observations of primary source materials embedded in their natural contextor simulations thereof.
2. **Interpretation Construction**: Students interpret their observations and explain their reasoning.
3. **Contextualization**: Students construct contexts for their explanations.
4. **Cognitive Apprenticeship**: Teachers help student apprentices, master observation, interpretation, andcontextualization.
5. **Collaboration**: Students collaborate in observation, interpretation, and contextualization.
6. **Interpretations**: Students gain cognitive flexibility by being exposed to multiple interpretations from other students and from expertexamples.
7. **Multiple Manifestations**: Students gain transferability by seeing multiple manifestations of the same interpretations.

Examples of Constructivist Activities

In the constructivist classroom, students work primarilyin groups and learning and knowledge are interactive and dynamic. There is a great focus and emphasis on social and communication skills, as well as collaboration and exchange of ideas. This is contrary to the traditional classroom in which students work primarily alone, learning is achieved through repetition, and the subjects are strictly adhered to and are guided by a textbook. Some activities encouraged in constructivist classrooms are:

- Experimentation: students individually perform an experiment and then come together as a class todiscuss the results.
- Research projects: students research a topic and can present their findings to the class.
- Field trips. This allows students to put the concepts and ideas discussed in class in a real-world context. Field trips would often be followed by class discussions.
- Films. These provide visual context and thus bring another sense into the learning experience.
- Class discussions. This technique is used in all of the methods described above. It is one of the most important distinctions of constructivist teaching methods.

Constructivist approaches can also be used in online learning. For example, tools such as discussion forums, wikis and blogs can enable learners to actively construct knowledge.The following list of exhibit, presentation, and demonstration methods will provide some useful starting points to the students.

1. **Students can construct additional knowledge by figuring out/analyzing:**

- solutions to problems in the school or community
- mathematics formulas to explain a problem, or pose a solution
- categorization method for some plants or animals in your area based on careful observation (perhaps a small collection, or homemade "museum")
- a plan for a scavenger hunt
- a treasure hunt (in which clues involve vocabulary from the topic)
- a collection of objects from nature
- the night sky, food chain, water cycle, or other sciencetopic
- local, national, or international environmentalconcern

2. **Students can construct additional knowledge bywriting:**

- poems
- short plays

- screen plays
- legal briefs
- song lyrics
- journals
- diaries
- memoirs
- travelogues
- interviews
- letters (or e-mail) to experts
- original advertisements
- new endings for stories or songs
- "what if..." thought experiments

3. **Students can construct additional knowledge by making/inventing/designing/drawing:**

- posters
- cartoons
- timelines
- models
- charts
- maps
- graphs
- board games
- concept maps
- multimedia presentations

4. **Students can construct additional knowledge by performing/presenting:**

- a play
- a concert
- role-play lecture (such as a well-known person from history)
- a dance based on literature or historical event
- collected songs about a topic from another era

As students work through the problem, help them plan appropriate ways to construct and demonstrate their solutions.

Constructivist Assessment

Traditionally, assessment in the classrooms is based on testing. In this style, it is important for the student to produce the correct answers. However, in constructivist teaching, the process of gaining knowledge is viewed as being just as important as the product. Thus, assessment is based not only on tests, but also on observation of the student, the student's work, and the student's points of view. Some assessment strategies include:

1. **Oral discussions**: The teacher presents students with a "focus" question and allows an open discussion on the topic.
2. **KWL(H) Chart:** (What we **K**now, What we **W**ant to know, What we have **L**earned, **H**ow we know it). This technique can be used throughout the course of study for a particular topic, but is also a good assessment technique as it shows the teacher the progress of the student throughout the course of study.
3. **Mind Mapping**: In this activity, students list and categorize the concepts and ideas relating to a topic.
4. **Hands-on activities**: These encourage students to manipulate their environments or a particular learning tool. Teachers can use a checklist and observation to assess student success with the particular material.
5. **Pre-testing:** This allows a teacher to determine what knowledge students bring to a new topic and thus will be helpful in directing the course of study.

An Example of a Lesson taught with a Constructivist Background

A good example of a lesson being taught in a constructivist way, with the teacher mediating learning rather than directly teaching the class is shown by the example of Faraday's candle. This is a lesson, on the functioning of candles. In open constructivist lessons using these lectures as a basis, students are encouraged to discover for themselves how candles work. They do this first by making simple observations, from which they later build ideas and hypotheses which they then go on to test. The teacher acts to encourage this learning. If successful, students can use this lesson to understand the components of combustion, an important chemistry topic.

INTEGRATED AND THEMATIC PLANNING

Integrating various subjects in the curriculum can contribute to a greater awareness of the interrelationship of school programmes and make learning more

relevant. Integration of subject content is intended to help students make sense of the many dimensions of their world. Integration also enhances student's ability to transfer the competencies and skills acquired in one context to other appropriate situations. Teachers determine the extent to which curriculum integration is appropriate and the manner in which it is achieved.

An integrated curriculum combines two or more subject areas to create one course or cover an educational theme. Integrated curriculum is designed to increase student learning and retention of material. It is also an educational model for decreasing instruction in isolated academic disciplines because it combines goals and objectives from a range of academic areas (Beane, 1997).

In an integrated curriculum, teachers can combine disciplines by creating logical connections within their classrooms. Reisberg (1998) states "teachers using integrated curriculum may select a subject for instruction and include related topics from other areas in the unit plan". A teacher, orteam of teachers, can combine subjects that have traditionally been taught separately into a single integrated course.

In general, integrated planning includes:

- a combination of subjects
- an emphasis on projects
- sources that goes beyond textbooks
- relationships among concepts
- flexible schedule
- flexible student's grouping
- thematic units as organizing principles

Curriculum Integration planning is essential for the smooth functioning of education and for the harmonious growth and development of students. Curriculum integration is important as:

- students see relationships among ideas and concepts as they plan and experience theme based enquiry
- relationships between in and out of schools topics become more obvious to students
- communication processes become more authentic as students engage in thematically based learning activities
- students are encouraged to share ideas

- respect and cooperation among peers are expanded through interaction
- students become more engaged and responsible fortheir own learning
- the teacher assumes the role of facilitator, rather thaninformation dispenser
- a sense of community may develop
- assessment becomes authentic, continuous andrelated to learning endeavours

Thematic planning involves integrating curriculum areas around topics or themes. Thematic planning seeks to view teaching and learning in an interactive and holistic way that reflects the real world. Thematic studies are extremely effective both for integrating the curriculum and for teaching skills in context.

Theme based units are a vehicle for teaching a range of skills and content by integrating curriculum areas around a topic. This method of teaching links curriculum capitalizes on children's interests, creating a sense of purpose and community in the classroom. By building on their interests and life experiences; young people's attitudes, skills and knowledge are developed in meaningful ways. Inquiry and communication are activated by a desire to know more, resulting in enthusiastic participation in the learning process. Teachers use many different approaches to thematic learning, but all forms of thematic approach have in common an emphasis on making connections in knowledge. Thematic approaches start by making connections, and they provide experiences that are broad and rich enough in detail to enable students to connect their learning with real life.

Meldrum & Peters (2012) describe a thematic model as one that adopts themes that are suggestive of a range of teaching ideas and often integrate several topics.

The basic element of thematic instruction is based on the idea that people acquire knowledge best when learning occurs in the context of a coherent 'whole' and when they can connect what they're learning to the real world.

Thematic instruction seeks to put the teaching of cognitive skills such as reading, mathematics, science, and writing in the context of a real-world subject that is both specific enough to be practical, and broad enough to allow creative exploration.

Concept of Integrated-Thematic Planning

Integrated or thematic instruction is an interdisciplinary teaching approach that presents subject matter according to themes or topics. Each theme or topic is presented in extended units so that students have enough time to develop understanding and to find

connections to what they know and value.

Integrated thematic planning is a way of delivering curriculum (the what is to be learned) that hooks objectives together and helps children see how things are related to one another.

School-wide theme studies are usually planned for multi- aged groups created by combining the student population in different ways than the usual grade level groups. The structure and duration of the theme study vary according to the resources available and the objectives of the unit. Often this type of activity is limited to a single day or several half days because of the complexity of organization required. One advantage of school-wide theme studies is that teachers benefit from the interchange of ideas when they come together to work collaboratively. Also, the sense of the school as a community is enhanced when teachers and students from different classes become acquainted and when students work with others of different ages.

Characteristics of Integrated-Thematic Planning

- Integrated-Thematic planning is a great creative out let
- ITP provides an orientation to a productive mode of learning
- It enable students to make significant connections amongst things, people or events that enhance their real knowledge about the world and themselves
- Integrated-Thematic units act as a vehicle for teaching a range of skills and content by integrating curriculum areas around a topic
- IT plans are powerful in building and maintaining the interest of students
- It is a powerful tool for reintegrating the curriculum and eliminating the isolated, reductionist nature of teaching around disciplines rather than experience
- Integrated-Thematic instruction is often project- oriented, it frequently involves students giving collective presentations to the rest of the class
- ITP requires a lot of hard, initial design work, plus a substantial restructuring of teacher relationships and class schedules.

Various Sources for Integrated-Thematic Planning

There are several different ways in which planning for Integrated-Theme Cycles may begin:

- **Curriculum:** The starting point for a plan may be skills or content that the teacher is

required to teach as prescribed in the curriculum.

- **Interests of the teacher or students:** Often an interesting aspect of some other study may trigger a fascination in the teacher or one or more of the students that leads to a thematic study for the class or a group or individual project.
- **The stimulus of a direct experience:** A particular experience, individual or shared, planned by the teacher or occurring incidentally, may trigger a desire to continue study of related topics.
- **The stimulus of a book or other vicarious experience:** Perhaps the teacher reads a book to the class and the story, or the information, or some idea in it arouses such interest that the class or one or more individuals extend their engagement with the ideas into a Theme Cycle.
- **Events of local or national importance:** These may provide excellent opportunities to explore ideas across the curriculum. These can be stimulating and interesting, but they often assume an unrealistic importance in the curriculum and take up a great deal of time without contributing much to students' knowledge.

Pre-requisites for Integrated-Thematic Planning

Integrated-thematic planning is known to be a 'brain friendly' way to hook previous learning and current learning together to provide a widening base of knowledge and discovery. It has the following prerequisites to be successful in a learning environment:

- **Safe Classrooms**: A friendly and safe classroom environment is required where everyone can take a risk (like giving an incorrect answer without being laughed at). Having in place everyday procedures, knowing that the schedule is predictable, and being consistent are all qualities of a safe environment.
- **Cooperation and Collaboration**: Using cooperative groups and developing collaboration among students leads to social problem solving and mutual respect. When children feel empowered to solve problems, theydevelop a sense of well being and independence.
- **Proper Time Management**: Students must have adequate time to process information. This is not necessarily the quantity of time but also the quality of time given to exploring new concepts and helping children build on what they already know.

- **An Enriched Environment**: It is a key to a brain- friendly classroom. Hands-on activities, lots of resource books, and a clutter-free, purposeful immersion in learning provides children with loads of opportunities for expansion.

  - **Free-Choice**: Students in a brain-friendly classroom have choices in the ways they learn and express their learning. Individual learning styles, playing on strengths of the learners, using a wide range of strategies (from simple to complex) all make the tasks easier.
  - **Appropriate Content**: The content we teach must have an application to a child's real world – themes must be developmentally appropriate at each grade level so that students can make connections and form patterns in their minds.
  - **Feedback:** We know that *un-learning* takes longer than *initial* learning, so we need to provide feedbackall along, while mental patterns are being formed. This means careful guidance from adults and a conscious effort to monitor learning every day.
  - **Variations in Teaching Methods:** Finally, mastery of learning must be assessed in a variety of ways, not just paper-pencil testing. Student portfolios, retelling information, teacher observations, peer interactions– all are ways teachers can tell if students understood the learning.

Implementation of Integrated-Thematic Planning in Classrooms

Thematic units are powerful tools for building and maintaining student's interest during learning. They are diverse since the teacher can expand the content and ideas after receivinginputs from students, as opposed to teaching from a file that carries the same content from one year to the next.

Steps in Planning Integrated Thematic Units: Many teachers plan their classroom programs around themes, integrating curriculum areas into a single unit of study. These units vary in length depending on the resources available and whether or not the study is extended by the student's enthusiasm and interest. The theme may be chosen by the teacher or in collaboration with the students, or may develop from the interests of one or two students whose enthusiasm spreads to all their classmates. The teacher remains responsible for ensuring that skills are practised, but the subject matter may be directed by the students. The following steps can be carried by the teacher in making the Integrated-Thematic Units workable and successful in classroom teaching:

- **Chose a Theme:** The first task in the planning process is to define a theme that will form the basis of a unit of study. As a beginning, select one unit and build. Begin with concepts, objectives, materials, anda time element.

- **Pre-Planning:** Develop a realistic plan around the chosen theme. Planning should be such that it meets all the required objectives of a particular topic to be studied. Layer down the curriculum, concepts, and learning which will enables students to learn in a developmentally appropriate way.
- **Put the Plan into Action:** Launch the unit. Be flexible and ask students what they like or about their interests. Encourage students to make interest lists.
- **Evaluate:** Evaluation of student's progress should be addressed throughout the unit using tools that reflect the objectives. Additionally, allow the students to evaluate their learning and the unit content.

By following these steps, the students will develop deeper understanding, a sense of ownership in learning, and will be able to explore new concepts as activities reach all learning modalities.

Responsibilities of Teacher: The teachers need to:

- Involve colleagues and parents in building a community of learners
- Realize the advantages of teaching language and other skills while students are engaged in learning content matter
- Become more adaptable in planning activities which cater for students needs and interests and modifying plans as unit progresses
- Make realistic connections amongst different areas of the curriculum

Responsibilities of Students: The students need to:

- Connect information from many different sources
- Recognize the relationships among different ideas
- Experience a variety of working styles
- Use language for real purposes in many curriculum areas
- Develop independence and interdependence in undertaking studies
- Demonstrate learning in a wide variety of ways

Advantages of Using Integrated- Thematic Approach in Classrooms

- Improves the quality of teaching and learning in manyways

- Increase children's interest
- Focuses the learner on the mastery of overall objectives/goals
- Helps the children to make connections with their work
- Keeps children engaged through making learningactivities fun
- Compacts the curriculum
- Integrates Word Processing Skills into CreativeActivities
- Time saver as it promotes teaching multiple subjectsat one time
- Draws on connections from the real world and life experiences
- Makes teachers and students to be creative, authentic and original
- Integrate all subjects and use literacy within those subjects
- Utilizes Collaborative and Cooperative Learning
- Creates a community of learners

Limitations of Using Integrated-Thematic Approach in Classrooms

- Students may lose interest
- Students may not participate due to low motivationor interest
- Sometimes, it is difficult to find enough resources/ information to cover every aspect of the topic
- Intertwining the benchmarks within that one topic may bedifficult
- Inaccessibility to some students due to cultural, academic, or ability

Integrated-Thematic Unit Outline

Class/Grade……

Topic/Concept……

Objective's……

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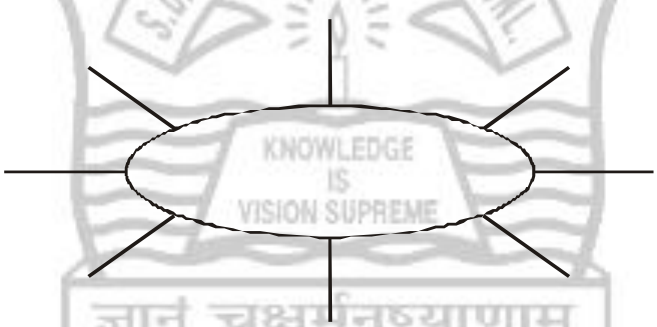
Inter-disciplinary Diagram



Lesson Plan Outline

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Teaching Resources Required

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Evaluation/Learning Outcomes

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CONCLUSION

The variety of Integrated-Thematic Approaches to learning not only adds interest to the program for both the teacher and the students, but they also facilitate learning by making connections easier. Teachers can plan integrated activities that give scope for a wide range of explorations of ideas, learning of interesting content and development of language and other skills. When students participate in the planning process they are more likely to understand and appreciate what they are learning. Integrating the diverse subjects in the curriculum into themes brings out the inter-relationship of the different school programs, making learning more relevant. Thematic planning is aimed at helping students in contextualizing what they learn and applying it in real life situations. It also provides an avenue for integration of content area in a realistic manner that helps children in applying the knowledge they acquire significantly in their daily lives.

KNOWLEDGE IS VISION SUPREME
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